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a first optical conductor element, having a first chromatic dispersion at said transmission wavelength; and

a chromatic dispersion compensating unit having a second chromatic dispersion at said transmission wavelength, said second chromatic dispersion being of opposite sign with respect to said first chromatic dispersion,

wherein said at least one transmission station comprises a high speed optical pulse transmitter adapted to generate an RZ optical signal at said transmission wavelength, bearing a coded information at a preset frequency, said RZ optical signal comprising optical pulses of duration  $T_{FWHM}$ , wherein:

the ratio  $T_{bit}/T_{FWHM}$ , between the inverse  $T_{bit}$  of said frequency and said duration  $T_{FWHM}$  of the pulses, is higher than 6 and lower than 10, and

said optical pulses are substantially free from chirp.

40. (Amended) Optical pulse transmission method, comprising the steps of:

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emitting an optical signal at a transmission wavelength and at a preset frequency bearing a coded information;

supplying the optical signal in an optical-fibre line having a chromatic dispersion;

compensating the chromatic dispersion of the signal in the optical-fibre line with a chromatic dispersion of the opposite sign, so as to achieve an overall positive dispersion for the optical signal;

wherein said step of emitting comprises:

generating a sequence of substantially chirp-free optical pulses at the transmission wavelength having a duration  $T_{FWHM}$ , the ratio  $T_{bit}/T_{FWHM}$ , between the inverse  $T_{bit}$  of said preset frequency and said duration  $T_{FWHM}$  of the pulses, being higher than 6 and lower than 10; and

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modulating said sequence of optical pulses with said coded information.

42. (Twice Amended) High-speed optical pulse transmitter, comprising:

an optical signal modulator;

an optical pulse modulator, optically linked to said signal modulator;

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a generator of a continuous optical signal, optically linked to said signal and pulse modulators;

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a signal modulator driver for feeding said signal modulator with an electrical signal bearing a coded information with a first frequency; and

a pulse modulator driver comprising:

a circuit for generating a first periodic electrical signal at said first frequency;

a circuit for generating a second periodic electrical signal at a second frequency which is a harmonic of said first frequency;

a first and a second amplifier for amplifying said first and second periodic electrical signal; and

a combining element for combining said amplified first and second periodic electrical signals, and for feeding said pulse modulator with said combined signal;

wherein said signal modulator emits a sequence of substantially chirp-free optical pulses at the transmission wavelength having a duration  $T_{FWHM}$ , the ratio  $T_{bit}/T_{FWHM}$ , between the inverse  $T_{bit}$  of said preset frequency and said duration  $T_{FWHM}$  of the pulses, being higher than 6 and lower than 10.

52. (Amended) Method of high-speed optical transmission, comprising the steps of:

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generating an optical signal;

modulating said optical signal with a periodic drive signal;

modulating said optical signal with an information bearing signal at a preset